

CLAIMS

What is claimed is:

1. An apparatus to accommodate and load a disc cartridge housing a disc and which is loaded in a drive, the apparatus comprising:
 - a tray on which the disc cartridge is accommodated;
 - a locking lever having a locking hook disposed to be caught in a groove formed at a side wall of the disc cartridge when accommodated on the tray and which restricts and/or releases the disc cartridge by using the locking hook; and
 - a sliding holder slidably installed at the tray to prevent the disc cartridge from moving by pressing the disc cartridge restricted by the locking lever in one direction.
2. The apparatus as claimed in claim 1, wherein, when the disc cartridge is loaded, the locking lever is restricted by the sliding holder.
3. The apparatus as claimed in claim 1, wherein:
 - the locking lever has first and second ends and is installed on the tray,
 - the first end comprises the locking hook, and
 - the second end comprises a support portion that contacts the sliding holder to restrict a movement of the locking lever when the disc cartridge is loaded.
4. The apparatus as claimed in claim 3, further comprising a main body which receives the tray, wherein:
 - the locking lever further comprises an interference protrusion formed at a side of the locking lever opposite to a side having the locking hook, and
 - when the tray containing the disc cartridge is inserted into the main body, the interference protrusion is restricted by a side wall of the main body to prevent the locking hook from being unlocked.
5. The apparatus as claimed in claim 4, wherein:
 - the interference protrusion protrudes outwardly from the locking lever by a distance from a side surface of the tray, and

the distance is less than a distance between the side wall of the main body and the side surface of the tray, and

when the locking hook contacts the side wall of the disc cartridge and is not caught in the groove of the disc cartridge, the interference protrusion protrudes past the side wall of the main body so as to contact the side wall of the main body during insertion so as to prevent insertion of the tray into the main body.

6. The apparatus as claimed in claim 5, wherein the support portion comprises:

a first support portion extending with a relatively small thickness and having an end portion fixed to the tray to provide elasticity to the locking lever, and

a second support portion extending with a relatively large thickness and is contacted by the sliding holder when the disc cartridge is loaded to prevent the locking lever from moving.

7. The apparatus as claimed in claim 1, wherein a height of the locking hook is less than a thickness of the disc cartridge, and the locking hook is installed to closely contact a surface of the tray.

8. The apparatus as claimed in claim 1, wherein:

the tray further comprises hooking protrusions disposed at corresponding side ends of a front surface portion of the tray opposite to a rear surface at which is disposed the sliding holder, and

the hooking protrusions are inserted in corresponding another grooves formed at corresponding side surfaces of a rear end portion of the disc cartridge opposite to a front end portion of the disc cartridge which is pressed by the sliding holder.

9. The apparatus as claimed in claim 1, wherein the tray further comprises:

an accommodation portion disposed on an upper surface of the tray and which accommodates a bare disc that is not disposed in the disc cartridge, and

a protrusion to prevent the bare disc from escaping from a set position and which is installed around the accommodation portion, the protrusion being capable of elastically retreating so as to protrude when the bare disc is received but to retreat when the disc cartridge is received.

10. The apparatus as claimed in claim 9, wherein the sliding holder is installed to prevent the bare disc from escaping toward an inside of the tray and the protrusion is installed at a side of the tray opposite to the side at which the sliding holder is installed.

11. The apparatus of claim 1, further comprising an optical pickup transferring data with respect to the disc and a turn table which turns the disc.

12. A housing to accommodate and load a disc cartridge which holds an optical disc, the housing comprising:

a case;

a tray on which the disc cartridge is accommodated and which is received in the case;

a locking lever having a locking element which is received in a corresponding receiving element of the disc cartridge when accommodated on the tray; and

a holder slidably installed on the tray and which biases the disc cartridge against the locking element so as to prevent movement of the disc cartridge.

13. The housing of claim 12, wherein the locking lever engages the locking element with the receiving element when the disc cartridge is disposed in a first position on the tray, and does not engage the locking element with the receiving element when the disc cartridge is not disposed in the first position.

14. The housing of claim 13, wherein the holder biases against the disc cartridge such that the disc cartridge will not remain in the first position unless the receiving element is engaged with the locking element.

15. The housing of claim 13, wherein the locking lever rotates relative to the tray such that, when in the first position, the locking element is rotated to engage the receiving element, and when not in the first position, the locking element is rotated away from the disc cartridge.

16. The housing of claim 13, wherein the locking lever rotates in order for the locking element to be received at the corresponding receiving element of the disc cartridge, and the holding element comprises an extended portion that, when in the first position, contacts a portion of the locking lever to prevent the locking lever from rotating to remove the locking element from the corresponding receiving element of the disc cartridge.

17. The housing of 16, wherein the holder is biased to press against the disc cartridge in a first direction and, when the locking element is received at the receiving element, the locking element provides a counter force sufficient to prevent movement in the first direction.

18. The housing of claim 12, wherein the locking lever rotates relative to the tray such that, when in a first position, the locking element is rotated to engage the receiving element, and when not in the first position, the locking element is rotated away from the disc cartridge.

19. The housing of claim 18, wherein the receiving element is disposed on a first side of the disc cartridge, and the holder biases against a second side of the disc cartridge adjacent the first side.

20. The housing of claim 12, wherein the tray further comprises a disc holding element that holds another optical disc when accommodated on the tray, and the another optical disc is accommodated on the tray without the disc cartridge.

21. The housing of claim 20, wherein the holder further comprises a surface having a curvature to follow a corresponding edge of the another optical disc when accommodated on the tray.

22. The housing of claim 20, wherein the disc holding element further comprises retractable protrusions that guide the another optical disc to be accommodated on the tray, and the retractable protrusions retract when the disc cartridge is accommodated on the tray.

23. The housing of claim 22, wherein the retractable protrusions have corresponding inwardly inclined surfaces that guide the another optical disc to be accommodated on the tray.

24. The housing of claim 12, wherein the locking lever moves in order for the locking element to be received at the corresponding receiving element of the disc cartridge, and the tray further comprises a non-moveable locking element that receives a corresponding other receiving element of the disc cartridge when the locking element is received at the corresponding receiving element.

25. The housing of claim 12, wherein the tray is slideably accommodated in the case.

26. The housing of claim 25, wherein the locking lever further comprises a reversal prevention unit that prevents the tray from sliding into the case when the disc cartridge is accommodated in the tray but where the locking element is not received in the receiving element of the disc cartridge.

27. The housing of claim 25, wherein:

the locking element is disposed at a first height above a surface of the tray which corresponds to a height of the receiving element when the disc cartridge is accommodated on the tray with a first orientation,

the reversal prevention unit is disposed to allow the tray to slide into the case when the disc cartridge is accommodated in the tray at the first orientation at which the locking element is received in the receiving element, and

the reversal prevention unit prevents the tray from sliding into the case when the disc cartridge is accommodated in the tray in a second orientation other than the first orientation and the receiving element is disposed at a second height above the surface of the tray other than the first height so as to prevent the locking element from being received at the receiving element.

28. The housing of claim 26, wherein the reversal prevention unit comprises a protrusion that, when the disc cartridge is received in the tray and the locking element is received in the receiving element, does not contact the case and supports the locking element to remain at the receiving element, and when the disc cartridge is received in the tray and the locking element is not received in the receiving element, contacts the case to prevent the tray from sliding into the case.

29. The housing of claim 12, further comprising an optical pickup transferring data with respect to the optical disc and a turn table which turns the optical disc.